Amendments to the Specification:

Please replace the title with the following new title:

--A Method And Apparatus For Probing An Electronic Device In Which Movement Of Probes And/Or The Electronic Device Includes A Lateral Component--

Please replace paragraph [0005] with the following amended paragraph:

[0005] Figures 2A-2C illustrate movement of the wafer 124 into contact with the probe card 106. As mentioned above and shown in Figure 2A, terminals 220 of one or more dies 202a, 202b of wafer 124 are aligned with probes 108 of the probe card 106. The chuck 114 them moves the wafer upward such that the terminals 220 of the die 202a contact probes 108, as shown in Figure 2B. As shown in Figure 2C, the chuck 114 typically moves the wafer 124 beyond first contact with the terminals 220. (Movement beyond first contact is often referred to as "over travel.") This typically compresses the probes 108. The resulting spring force exerted by the probes 108 against the terminals 220 helps to create a reasonably low resistance electrical connection between the probes and the terminals. In addition, the probes 108 often wipe across the surface of the terminals 220 as the probes are being compressed. The wiping action tends to cause the tips of the probes 108 to break through any oxide or other build up on the terminals 220, again helping to create a reasonably low resistance electrical connection between the probes and the terminals.

Please replace paragraph [0006] with the following amended paragraph:

[0006] As might be expected, compression of the probe 108 and the wiping action induce forces and stresses in the probe, which may break, damage, or reduce the useful life of a probe 108. In addition, the force exerted by the probe 108 against the terminal 220 may damage the terminal 220 and/or the wafer 124. A wafer 124 comprising material with a low "k" dielectric may be particularly susceptible to such damage. Generally speaking, the greater the friction between a probe 108 and a terminal 220, the greater such forces and stresses are likely to be. Indeed, it is possible for frictional forces to prematurely stop the wiping of the probe 108 tip across the terminal 220. This may happen, for example, if the probe 108 tip digs too deeply into the terminal 220 or if the probe tip gets caught in an irregularity on the surface of the terminal. If the probe 108 tip stops its wiping motion prematurely, the forces and stresses that build up on the probe may become particularly large (and therefore particularly likely to cause damage to the probe, terminal, and/or wafer). Although a probe 108 may dig into any type of terminal [[204]] 220, a probe 108 is particularly susceptible to digging into a terminal made of a soft material (e.g., solder ball or aluminum terminals) or a terminal with a rough surface (e.g., copper terminals). Embodiments of the present invention, among other things, may reduce stresses in a probe and forces exerted by and against a probe. One nonlimiting advantage of the invention is in reducing or replacing the vertical component of relative movement between the probe and the terminal as they are brought into contact by a wiping action, which reduces the forces on and stresses in the probe.

Please replace paragraph [0029] with the following amended paragraph:

[0029] Figures 4 and 5A-5C illustrates an exemplary process for testing semiconductor wafers 424 utilizing the test system 400 shown in Figure 3. As shown in Figures 4 and 5A, a wafer 424 to be tested is placed on the chuck 414 (step 502). As shown in Figures 4 and 5B, the chuck 414 then moves the wafer 424 such that terminals 620 on the wafer 424 are brought into a position laterally adjacent tips 636 of probes 408 (step 504). As one example, and as shown in Figure 5B, the terminals [[636]] 620 may be positioned such that the tips 636 of probes 408 do not touch wafer 424 but are nevertheless positioned below the top surfaces of terminals 620. Of course, the wafer 424 could alternatively be held stationary and the probes 408 moved, or both the wafer 424 and the probes 408 could be moved. In the system shown in Figure 3, software running in controller 430 may issue commands via I/O port 438 to control the movement of chuck 414.

Please replace paragraph [0032] with the following amended paragraph:

[0032] Still referring to Figures 4 and 5A-5C, with the probes 408 in contact with terminals 620, test signals are provide to the terminals through probe card [[408]] 406, and response data generated by the die or dies to which the terminals are attached are sensed by certain of the probes 408 (step 508). For example, such test signals may be generated by a tester 402. Once the testing is complete, the probes 408 and the terminals 620 are brought out of contact with each other (step 510). Again, in a system such as the one shown in Figure 3, the chuck 414 moves the wafer 424 while the probe card 406 remains stationary. The path or directions of the movement used to remove probes 408 and terminals 620 from contact with each other are not critical, and any paths or directions may be used. Nonlimiting examples of suitable paths include the reverse of the movement used to bring the wafer 424 into contact with the probes 408, simply moving the wafer in the "z" direction away from the probes, and movement consistent with the type of device being tested and continued use of the device. Controller 430 may be configured to move the wafer [[524]] 424 away from probes [[508]] 408 using any of these or other ways, and controller 430 may do so by executing software and issuing control signals that control movement of chuck 414. Steps 502-510 may then be repeated until all or at least a portion of the dies on the wafer 424 have been tested.

Please replace paragraph [0035] with the following amended paragraph:

[0035] Figures 8A and 8B illustrate another variation of the exemplary processes shown in Figure 4. As shown in Figure 8A, terminals 1020 of wafer 424 are initially positioned below probes 408. Also as shown in Figure 8A, a sloped face or edge 638 of a probe tip [[638]] 636 is aligned with a corner edge 1022 of a terminal 1020. Then, as shown in Figure 8B, chuck 414 moves wafer 424 upward into contact with probe tips 636. As the corner edge 1022 of terminal 1020 comes into contact with and then slides along the sloped face or edge 638 of probe tip 636, the probe 408 is deflected as shown in Figure 8B, creating a pressure contact between probe tips 636 and terminals 1020. Optionally, the distance by which tip 636 extends away from paddle 632 may be made to be less than the height of terminals 1020 from the surface of wafer 424. In this way, paddle 632 may act as a stop, preventing tips 636 from contacting the surface of wafer 424.

Please replace paragraph [0036] with the following amended paragraph:

[0036] Figures 9A and 9B illustrate a variation of the exemplary process shown in Figures 8A and 8B. As shown, wafer 424 in Figures 9A and 9B have rounded terminals 1120. As shown in Figure 9A, terminals 1120 of wafer 424 are positioned below probes 408. Preferably, a tip 636 of a probe 408 is aligned off center with a terminal 1120. Then, chuck 414 moves wafer 424 upward into contact with probe tips 636, as shown in Figure 9B. After a probe tip 636 comes into contact with a terminal 1120, the probe tip slides along the periphery of the terminal, which may [[case]] cause the probe 408 to deflect as shown in Figure 9B, creating a pressure contact between probe tips 636 and terminals 1120.

Please replace paragraph [0041] with the following amended paragraph:

[0041] The exemplary test system 1200 shown in Figure 12 may be generally similar to the test system 400 illustrated in Figure 3. The exemplary test system 1200 shown in Figure 12, however, includes a first track 1204 to which the probe card 406 is attached with roller 1208, allowing the probe card 406 to move in the "y" direction shown in Figure 12. Tracks 1202 and rollers 1206 allow the probe card 406 to move in the "x" direction, and telescoping and rotary actuator 1210, which includes element 1212 for holding the probe card 406, allows the probe card 406 to move in the "z" and "θ" directions. Motors (not shown) or other actuators (not shown) effect such movements of the probe card. Controller 1230 may be generally similar to controller 430 illustrated in Figure 4 but modified to issue control signals that move both the chuck 414 and the probe card 406. (The chuck 414 may be similar to chuck 114 of Figure 1.) Of course, the chuck 414 could be held stationary and only the probe card 406 moved. Modified to include movement of the probe card 406, the exemplary processes described herein may otherwise be implemented in a system like that shown in Figure 12.

Please replace paragraph [0042] with the following amended paragraph:

[0042] Figures 13A-13C illustrate an exemplary process in which two contact features 1334, 1338 on a probe 1308 are configured to make sequential contact with a terminal 422 of a wafer 424. That is, probes 1308, which are attached to element 1306, include a first contact feature 1338 and a second contact feature 1334. These contact features 1334, 1338 are configured and situated on probes 1308 so that a particular movement of wafer 424 by chuck 414 causes the first contact feature 1338 to contact terminal 422 and then the second contact feature 1334 to contact terminals 422.